

WELLS STREET BRIDGE
(Allen County Bridge No. 542)
Spanning the Spy Run Creek at Wells Street
Fort Wayne
Allen County
Indiana

HAER No. IN-84

HAER
IND
2-FOWA,
5-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD

National Park Service
Northeast Region
Philadelphia Support Office
U.S. Custom House
200 Chestnut Street
Philadelphia, P.A. 19106

HISTORIC AMERICAN ENGINEERING RECORD

**WELLS STREET BRIDGE
(ALLEN COUNTY BRIDGE NO. 542)**

HAER
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2-FOWA,
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HAER No. IN-84

LOCATION: Spanning the Spy Run Creek at Wells Street, Fort Wayne, Allen County, Indiana

Quad: Fort Wayne West, IND
UTM Coordinates: 16.655580.45515B0

BUILDER: Burk Construction Company of New Castle, Indiana

ENGINEER: O. B. Wiley

**DATE OF
CONSTRUCTION:** 1914

**PRESENT
OWNER:** Allen County
Room 200, City-County Building
One Main Street
Fort Wayne IN 46802

**PRESENT
USE:** Vehicular Bridge

SIGNIFICANCE: The Wells Street Bridge (Allen County Bridge No. 542) over the Spy Run Creek is an 88-foot long, single-span, reinforced concrete arch. The bridge appears to use the Melan system of reinforcing, a system largely abandoned by 1914. The Wells Street Bridge (Allen County Bridge No. 542) is eligible for inclusion in the National Register of Historic Places based on its engineering significance at the local level.

**PROJECT
INFORMATION:** This historic documentation is being done as a mitigation measure as part of the Memorandum of Agreement for the replacement of the Wells Street Bridge (Allen County Bridge No. 542).

Amy Rakes
Bonar & Associates, Inc.
616 South Harrison Street
Fort Wayne IN 46802

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The Wells Street Bridge (Allen County Bridge No. 542) is located in Fort Wayne, Allen County, Indiana, as shown on the general location map. The bridge is located immediately south of where Mildred Avenue intersects Wells Street. Its immediate surroundings are shown on the Wells Street Bridge site map. The bridge connects Wells Street over the Spy Run Creek.

The Wells Street Bridge (Allen County Bridge No. 542) was built by the Burk Construction Company of New Castle, Indiana. The bridge was engineered by O. B. Wiley, the Allen County Surveyor at the time.

The bridge is an 88-foot long, single-span, reinforced concrete arch. The bridge appears to use the Melan system of reinforcing. According to Bridges and Their Builders and Bridges, the Spans of North America, Joseph Melan was an Austrian engineer who devised a method of concrete arch construction that used parallel metal I-beams embedded in concrete. This method involved constructing a relatively light fabricated steel arch between piers, which served as a centering to support the forms for pouring concrete and as a stiff reinforcement. Melan's system was introduced in the United States in 1893 and used extensively in highway bridges and some pedestrian spans. It was largely abandoned by 1914.

The Wells Street Bridge (Allen County Bridge No. 542) has a deck width of 32.2 feet with a clear roadway width of 29.9 feet. The roadway consists of asphalt over a bituminous on earth fill deck. The bridge is designed for two-way traffic. The bridge has no provisions for pedestrian traffic.

Granite commemorative plaques are located at the middle of the bridge on each side and are set in the concrete side railings. The plaque on the east side of the bridge lists the date the bridge was erected, the construction company, and the bridge engineer. The plaque on the west side lists the names of local governmental officials at the time the bridge was built. These officials are County Commissioners James D. Butt, William G. Schwier, Albert J. Black, and Calvin H. Brown, Auditor.

The Indiana State Historic Preservation Officer and the Secretary of the Interior have determined that the Wells Street Bridge (Allen County Bridge No. 542) is eligible for inclusion in the National Register of Historic Places based on its engineering significance at the local level. The bridge is cited in a concrete bridge inventory of the State of Indiana prepared by Dr. James L. Cooper, a historian at DePauw University. Historical information on the Wells Street Bridge (Allen County Bridge No. 542) is very limited. Discussions with employees of the Allen County Highway Department, the Allen County Public Library, and the Historical Museum of Fort Wayne revealed a lack of information on the bridge. There are no original bridge plans or any known mention in the local newspapers or historic publications.

The Wells Street Bridge (Allen County Bridge No. 542) is an important connector across the Spy Run Creek for vehicular traffic using Wells Street, a major north-south corridor providing access within the northwest sector of Fort Wayne. The bridge connects downtown Fort Wayne and nearby residential areas with one of Fort Wayne's primary commercial/retail areas and a regional shopping mall. Wells Street is proposed to become a four-lane thoroughfare in

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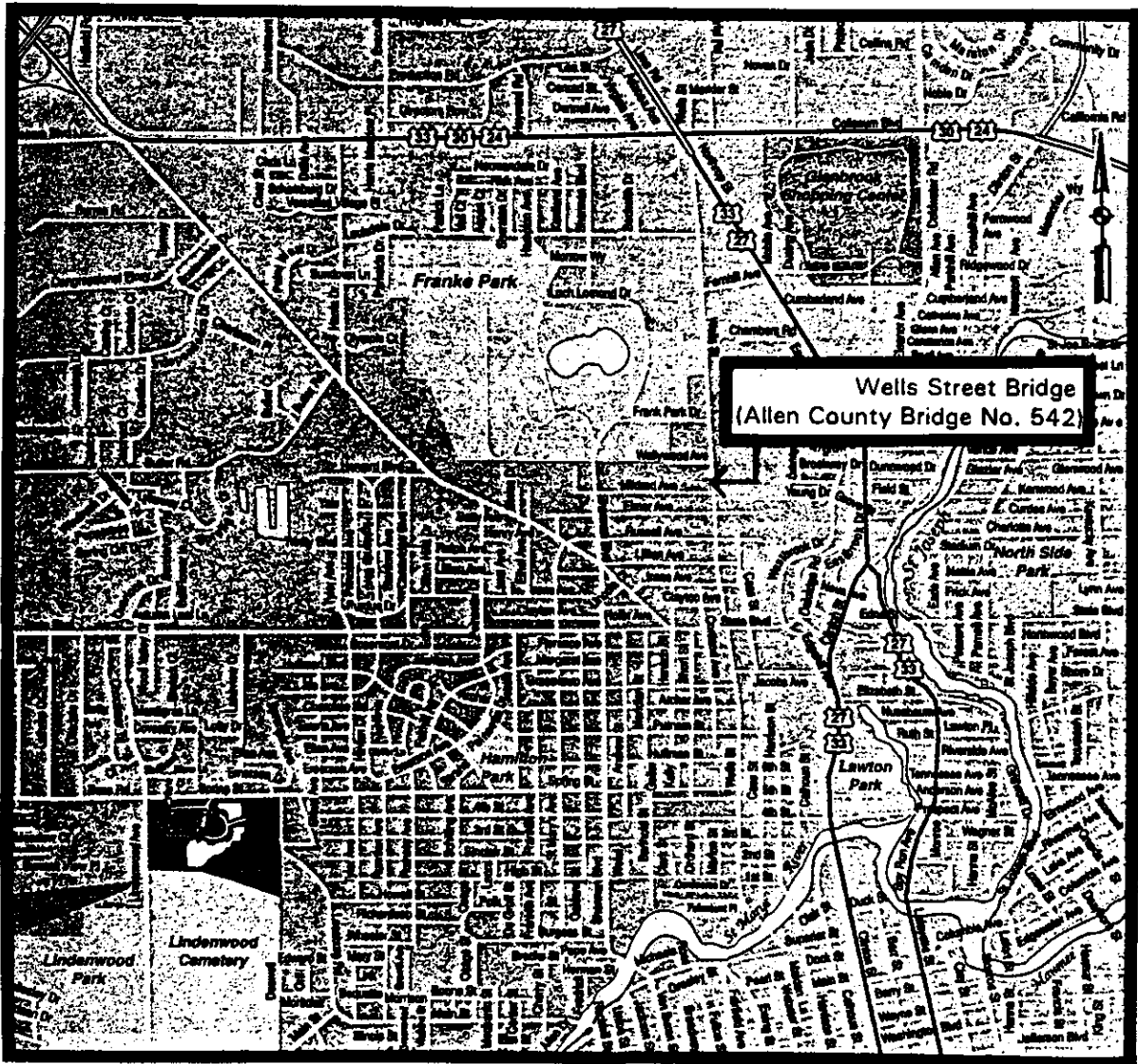
the Transportation 2010 Plan for the Fort Wayne-AlLEN County area. The new roadway will require a four-lane bridge. Because the new structure width will be twice the existing width, the present arch will not be capable of carrying four traffic lanes and sidewalks necessary to handle projected traffic needs.

In addition, the concrete in the arch of the bridge has severely deteriorated. The spandrel walls are no longer structurally sound. The Fort Wayne Journal-Gazette reported on June 3, 1995, that the bridge would have to be closed for a week for repairs due to stress fractures along the handrail on the southwest side of the bridge that were noted during a routine inspection. The replacement of the existing bridge is necessary to meet future traffic demands, current roadway standards, and safety considerations due to structural deterioration.

BIBLIOGRAPHY

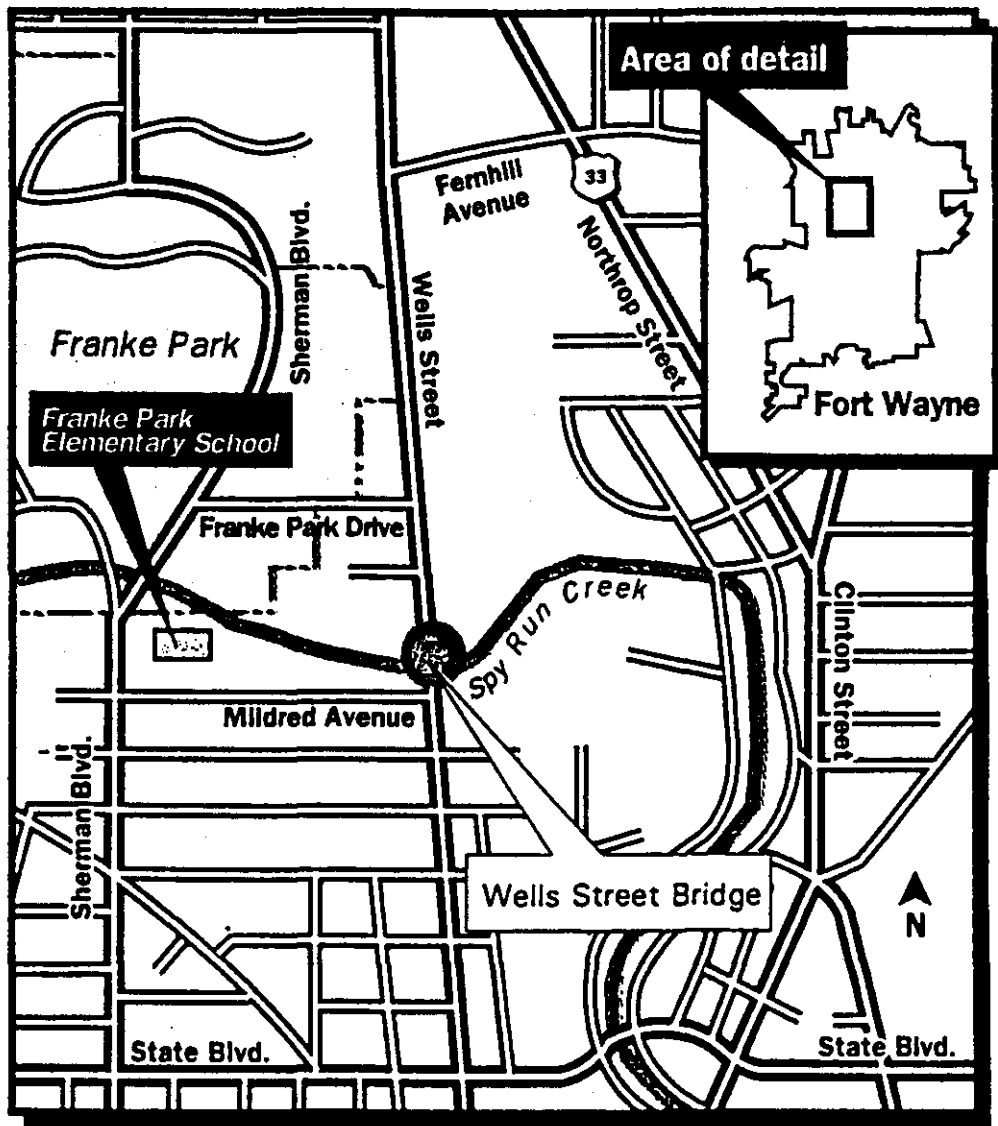
1. Cooper, James, "Reinforced Concrete Bridge Inventory", (prepared for Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology).
2. The Journal-Gazette, (Fort Wayne, Indiana), Volume 132-154, June 3, 1995, p. 1A.
3. Plowden, David, Bridges: the Spans of North America, (The Viking Press, Inc., NY, 1974), p. 298.
4. Steinman, David and Watson, Sara, Bridges and Their Builders, (Dover Publications, Inc., NY, 1957), P. 271.
5. Peppers, Elliott. "Stress Fractures Close Historic City bridge." [Fort Wayne] Journal-Gazette, June 3, 1995. ✓

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GENERAL SITE LOCATION MAP - 1995

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WELLS STREET BRIDGE SITE MAP